AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A method of detecting errors in transferred data comprising steps of:

receiving transferred data having an error detection code with a first symbol-size and an error correction code having a second symbol size different from the first symbol-size appended to user data;

calculating a transformed error detection code syndrome and a recomputed transformed error detection code syndrome from data having an error detection code appended to user data; calculating a recomputed error detection code syndrome;

comparing the recomputed transformed error detection code syndrome to the transformed error detection code syndrome; and

if the recomputed transformed error detection code syndrome corresponds to the transformed error detection code syndrome, transferring the data to a host.

Claim 2 (Original): The method of claim 1 further comprising steps of:

if the recomputed transformed error detection code syndrome does not correspond to the transformed error detection code syndrome, receiving the data again.

Claim 3 (Original): The method of claim 1, wherein the transformed error detection code syndrome recomputation step comprises steps of:

computing a correction pattern using a Chien search in conjunction with Forney's algorithm.

Claim 4 (Original): The method of claim 1, wherein the transformed error detection code syndrome calculating step comprises steps of:

generating an error detection code multiplier;

generating a non-transformed error detection code syndrome; and

multiplying the error detection code multiplier by the non-transformed error detection code syndrome.

Claim 5 (New): The method of claim 1, wherein the error detection code includes a first portion with a first symbol size and a second portion with a second symbol size, wherein the second symbol size is different from the first symbol size.

Claim 6 (Original): The method of claim 1 wherein the step of calculating a recomputed transformed error detection code syndrome is performed only if the transformed EDC syndrome is nonzero.

Claim 7 (Original): The method of claim 6 wherein if the transformed EDC syndrome is zero, then the transmitted data is transmitted to the host.

Claim 8 (Original): A method of detecting an error in error correction code (ECC) interleave encoded data comprising steps of:

receiving ECC interleave encoded data;

transforming the data in a transformed error detection code (EDC) syndrome generator into a transformed error detection code syndrome;

receiving the ECC interleave encoded data in a recomputed transformed error detection syndrome generator;

generating a recomputed transformed error detection syndrome associated with a computed correction pattern in the ECC interleave encoded data; and

comparing the transformed EDC syndrome with the recomputed transformed error detection syndrome.

Claim 9 (Original): The method of claim 8 further comprising a step of:
locating errors either in the received data using an error locator; and
correcting errors in the received data using an error evaluator.

Claim 10 (Original): The method of claim 9 wherein the locating step comprises performing a Chien search using the received data and the evaluating step comprises performing Forney's algorithm.

Claim 11 (Original): The method of claim 8, wherein the transforming step comprises:

generating a non-transformed EDC syndrome;

computing an EDC multiplier; and

multiplying the non-transformed EDC syndrome by the EDC multiplier to generate the transformed EDC syndrome.

Claim 12 (Original): The method of claim 11, wherein the step of generating a non-transformed EDC syndrome generator comprises:

receiving the data;

providing clocked flip-flops;

multiplying an output of the flip-flops with a value associated with the error detection code in the received data; and

logically adding the multiplied output to the received data.

Claim 13 (Original): The method of claim 8 further comprising steps of:

generating an error correction code (ECC) syndrome from the received data in an ECC syndrome generator.

Claim 14 (Original): The method of claim 13 wherein the ECC syndrome generator is connected to a comparator through an error correction unit.

Claim 15 (Original): The method of claim 14 wherein the error correction unit is connected to the comparator through an EDC syndrome recomparator.

Claim 16 (Original): A method for encoding data with an error correction code and error detection code comprising:

generating an error correction code for data using a first symbol size; and generating an error detection code for the data using a second symbol size different from the first symbol size.

Claim 17 (Original): The method according to claim 16 wherein the first symbol size is h-bits and the second symbol size (g-bits) is twice the first symbol size.